MANCHESTER FIRE DEPARTMENT

RULES AND REGULATIONS

FOR

FIXED FIRE PROTECTION

SYSTEMS

Updated December 2005

SECTION 1

Sprinkler Systems

Administrative rules

The installer of a sprinkler system shall file an application with the Manchester Fire Department Fire Prevention Bureau with a filing fee of $1.00 per device with a minimum being fifty dollars ($50.00). (Devices Included in this fee shall include sprinkler heads, backflow preventers, post indicator valves, OS&Y valves, inspector's test valves and fire department connections).

Construction permits shall automatically become invalid unless the work authorized by such permit is commenced within 180 days after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. Before such work recommences, a new permit shall be first obtained and the fee, if any, shall be one-half the amount required for a new permit for such work, provided no changes have been made or will be made in the original construction documents for such work, and provided further that such suspension or abandonment has not exceeded one year. Permits are not transferable and any change in occupancy, operation, tenancy or ownership shall require that a new permit be issued.

All sprinkler systems installed in the City of Manchester shall have a plumbing permit from the City of Manchester Building Department.

All sprinkler systems installed in the City of Manchester shall have a fire alarm permit from the Manchester Fire Department Communications Division.

A set of working plans and hydraulic calculations shall be submitted to the Manchester Fire Department Fire Prevention Bureau prior to the installation of the sprinkler or standpipe system. Working plans shall be drawn to an indicated scale and include **all** items detailed in the most recent edition of NFPA 13. Hydraulic calculations shall be prepared on form sheets that include summary sheet, detailed information sheets, and a graph sheet. All hydraulic calculation sheets shall include all items detailed in the most recent edition of NFPA 13.

All plans submitted must be stamped and signed by a NICET Level III technician or higher, and installed by personnel registered with the Manchester Fire Department Fire Prevention Bureau.

All sprinkler systems installed in the City of Manchester must be installed to meet the criteria set forth by NFPA 13, 13D and 13R respectively.

A failure of inspection shall result in a reinspection fee of $300.00 paid in advance to the Manchester Fire Department prior to any reinspection.

All buildings with a sprinkler or standpipe system must have an approved, manual evacuation fire alarm system connected to the Fire Department through a wired or radio master box or to an approved central station.

Permits and Inspections shall be required for all of the following:

- All new installations **without exception**
- Any work or modification to an existing sprinkler system. This includes but is not limited to; arm-overs, head replacements, and moving or relocating sprinkler heads. Any addition to, or expansion of existing systems shall require submission of hydraulic calculations
- Any repair or modification to the system components and hardware as listed in the most recent edition of NFPA 13 Installation of Sprinkler Systems
- Any installation of clean agent systems, UL 200 and UL 300 systems
- Any installation of fixed fire protection, Commercial hood suppression systems

System Requirements

The Post Indicator Valve (PIV) or Wall Mounted Indicator Valve and Fire Department Connection shall be located in the front of the building within twenty five feet (25') of fire truck access and shown on the site plan. These devices shall be clearly visible from the street and be installed on **private property.**

A post or wall indicating valve with tamper switch shall be provided on all installations. The wall valve shall be mounted between thirty six to sixty inches (36"-60") from ground level unless otherwise approved by the Fire Department.

A fire hydrant (privately owned or municipal) shall be located no more than one hundred feet (100') from the Fire Department Connection.

A Fire Department Connection shall be supplied on all sprinkler and standpipe installations. These connections shall consist of a single four-inch (4") Stortz connection. Connections must be a minimum of thirty-six inches (36") from all obstructions. All connections shall be identified with a metal sign with raised letters at least one inch (1") in size and shall identify the type of system and recommended system pressures.

All sprinkler risers and standpipe systems shall have a low pressure switch on the system side of the check valve located so that a sixty percent (60%) drop in pressure at any location in the system causes an alarm activation. Low-pressure switches located at the alarm valve **may not meet** this requirement.

All sprinkler and standpipe systems shall have alarm initiating retarded water flow devices.

All vane flow switches shall have a zero to sixty (0-60) second retard devices set to forty-five (45) seconds.

All sprinkler and standpipe systems shall have an inspector test valve located at the furthest point from riser and shall be piped to drain to the exterior of the building. (Multiple floors may be gang drained)

Each sprinkler riser shall be provided with a listed indicating valve in an accessible location.

There shall be no shut off valves on alarm devices.

Each floor shall be zoned separately with a valve to control water flow to the individual zone.

Each zone shall include an inspectors test valve connected to an appropriately sized orifice discharging to the exterior of the building or an approved drain. No hose connections shall be allowed.

All valves in the sprinkler system shall have permanent tags indicating the purpose of the device. All valves installed in the system shall be supervised.

If suppression or control valves are located in a separate or concealed space, a sign shall be provided on the entrance door or access panel to the concealed space. The sign shall be RED with WHITE lettering at least one inch (1") in height and shall read: "SPRINKLER CONTROL VALVE". All valves and controls shall be readily accessible.

A permanent legend and riser diagram must be placed at the main shut-off valve indicating the location of shut-off valves and inspectors test valves.

All areas of the building must be sprinkled; this includes bathrooms and closets and attics. All sprinkler heads installed in electrical rooms and elevator control rooms shall be 212 degree rated.

All elevator control rooms shall be equipped with a shut off valve with tamper switch located outside of the room.

All fire pumps installed in the City of Manchester shall be installed in accordance with the provisions put forth in the most recent edition of NFPA 20. The operation and status of the building fire pump shall be supervised, on a separate alarm zone for pump running and power failure, including off normal position of the disconnect switch.

A test header shall be provided with all fire pump installations in the City of Manchester. All fire pump systems shall be provided with a test header (or hose valve) which is piped to the exterior of the structure. The site in the vicinity of the test header shall be designed to account for the drainage of water of not less than one hundred fifty percent (150%) of the maximum pump drainage capacity.

All fire pumps shall be provided with a back up source of power approved by the Manchester Fire Department.

All standpipe systems installed in the City of Manchester shall be installed to meet the criteria set forth in the most recent edition of NFPA 14.

All standpipe systems must be installed to a minimum of five hundred gallons per minute (500 G.P.M.) for the first standpipe, plus two hundred fifty gallon per minute (250 G.P.M.) for each additional standpipe.

Standpipes shall have a one hundred (100) PSI @ 500 GPM residual rating at the top of the system.

All standpipe hose outlets shall have a 2 ½" by 1 ½" reducer with a cap and chain. The threads on these devices shall be congruent with those employed by the Manchester Fire Department.

Supervision of sprinkler systems

All sprinkler systems shall have a direct connection to the Manchester Fire Department or a Central Station approved by the Manchester Fire Department.

Each floor of a sprinkled building shall be zoned separately.

All water shut-off devices shall have tamper switches installed and wired for supervisory, which does not alarm the Fire Alarm Control Panel (FACP).

Testing and Inspection

A test certificate for above ground and underground piping shall be presented to the Manchester Fire Department prior to inspection.

A qualified technician thoroughly familiar with the design and installation of the system shall perform all system acceptance tests.

A failure of inspection shall result in a reinspection fee of $300.00 paid in advance to the Manchester Fire Department prior to any reinspection.

Annual inspections shall be performed in accordance with the latest edition of NFPA 25.

Reports of inspection shall be completed on the included inspection form (Appendix A) or as approved by the Manchester Fire Department.

All reports of inspection and testing shall be kept on premises and available for review.

The inspectors test, main drain valves, and all control valves on the sprinkler system shall be operated at least once per year to insure that there is free water flow, adequate pressure, and that the supervisory service is operating properly. An internal inspection of the piping shall be performed periodically, but at least every ten- (10) years to check for debris build up. If debris build up is discovered, the system shall be flushed and internal inspections shall then be conducted at five (5) year intervals thereafter. Each dry pipe valve shall be cleaned and reset at least once each year. Automatic anti-freeze solution systems and limited area systems that are supplied by a domestic water source and which are not required to provide a test line shall be exempt from the requirements of this section. Certification tags and seals shall be applied to the sprinkler system risers and fire pumps detailing the person or contractor conducting the test and the date of the test. All inspection reports shall be signed by a **NICET Level III** technician or higher.

All fire pumps that supply water to suppression systems and standpipes shall be operated once every thirty- (30) days to insure that water is discharged freely from the relief valve and that the system is functional. A yearly test shall be performed in accordance with the criteria put forth in the most recent edition of NFPA 25. Where the suction supply is from public means, the test shall not draw the residual suction pressure at the pump below twenty (20) pounds per square inch (PSI).

Exceptions

Any deviations or exceptions to these rules and regulations must be approved in writing by the Fire Prevention Chief prior to acceptance testing or any fire protection system.

Section 2

Clean Agent Systems

The installer of a clean agent system shall file an application with the Manchester Fire Department Fire Prevention Bureau with a filing fee of $1.00 per device with a minimum being fifty dollars ($50.00). See Appendix C for application.

Construction permits shall automatically become invalid unless the work authorized by such permit is commenced within 180 days after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. Before such work recommences, a new permit shall be first obtained and the fee, if any, shall be one-half the amount required for a new permit for such work, provided no changes have been made or will be made in the original construction documents for such work, and provided further that such suspension or abandonment has not exceeded one year. Permits are not transferable and any change in occupancy, operation, tenancy or ownership shall require that a new permit be issued.

All clean agent systems installed in the City of Manchester shall have a fire alarm permit from the Manchester Fire Department Communications Division.

All fire alarm work shall be done according to Manchester Fire Alarm Rules and Regulations and the most recent edition of NFPA 72 and 70.

All existing sprinkler protection shall remain unless otherwise protected by a preaction or similar equipment.

A set of working plans shall be submitted to the Manchester Fire Department Fire Prevention Bureau prior to the installation of the clean agent system. Working plans shall be drawn to an indicated scale and include **all** items detailed in the most recent edition of NFPA 2001.

All equipment installed shall carry the appropriate UL Listing for the premises to be protected.

All plans submitted must be stamped and signed by a registered fire protection engineer, and installed by personnel registered with the Manchester Fire Department Fire Prevention Bureau.

A qualified technician thoroughly familiar with the design and installation of the system shall perform all system acceptance tests.

A failure of inspection shall result in a reinspection fee of $300.00 paid in advance to the Manchester Fire Department prior to any reinspection.

Testing and Inspection

All clean agent systems shall be maintained and inspected in accordance with all applicable codes and adopted standards.

All reports of inspection and testing shall be kept on premises and available for review.

Exceptions

Any deviations or exceptions to these rules and regulations must be approved in writing by the Fire Prevention Chief prior to acceptance testing or any fire protection system.

Section 3

Commercial Cooking Suppression Systems

The installer of a commercial cooking suppression system shall file an application with the Manchester Fire Department Fire Prevention Bureau with a filing fee of $1.00 per device with a minimum being fifty dollars ($50.00). See Appendix C for application.

Construction permits shall automatically become invalid unless the work authorized by such permit is commenced within 180 days after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. Before such work recommences, a new permit shall be first obtained and the fee, if any, shall be one-half the amount required for a new permit for such work, provided no changes have been made or will be made in the original construction documents for such work, and provided further that such suspension or abandonment has not exceeded one year. Permits are not transferable and any change in occupancy, operation, tenancy or ownership shall require that a new permit be issued.

All commercial cooking suppression systems installed in the City of Manchester shall have a fire alarm permit from the Manchester Fire Department Communications Division if applicable.

All fire alarm work shall be done according to Manchester Fire Alarm Rules and Regulations and the most recent edition of NFPA 72 and 70.

A set of working plans shall be submitted to the Manchester Fire Department Fire Prevention Bureau prior to the installation of a commercial cooking suppression system. Working plans shall be drawn to an indicated scale and include **all** items detailed in the most recent edition of NFPA 96.

All equipment installed shall carry the appropriate UL Listing for the premises to be protected.

All plans submitted must be stamped and signed by a registered fire protection engineer, and installed by personnel registered with the Manchester Fire Department Fire Prevention Bureau.

All kitchens being equipped with a commercial cooking suppression systems shall have a K Class or equivalent extinguisher compatible with the agent installed in proximity with the area protected.

A qualified technician thoroughly familiar with the design and installation of the system shall perform all system acceptance tests.

A failure of inspection shall result in a reinspection fee of $300.00 paid in advance to the Manchester Fire Department prior to any reinspection.

Testing and Inspection

All commercial cooking suppression systems shall be maintained and inspected in accordance with all applicable codes and adopted standards.

All reports of inspection and testing shall be kept on premises and available for review.

Exceptions

Any deviations or exceptions to these rules and regulations must be approved in writing by the Fire Prevention Chief prior to acceptance testing or any fire protection system.